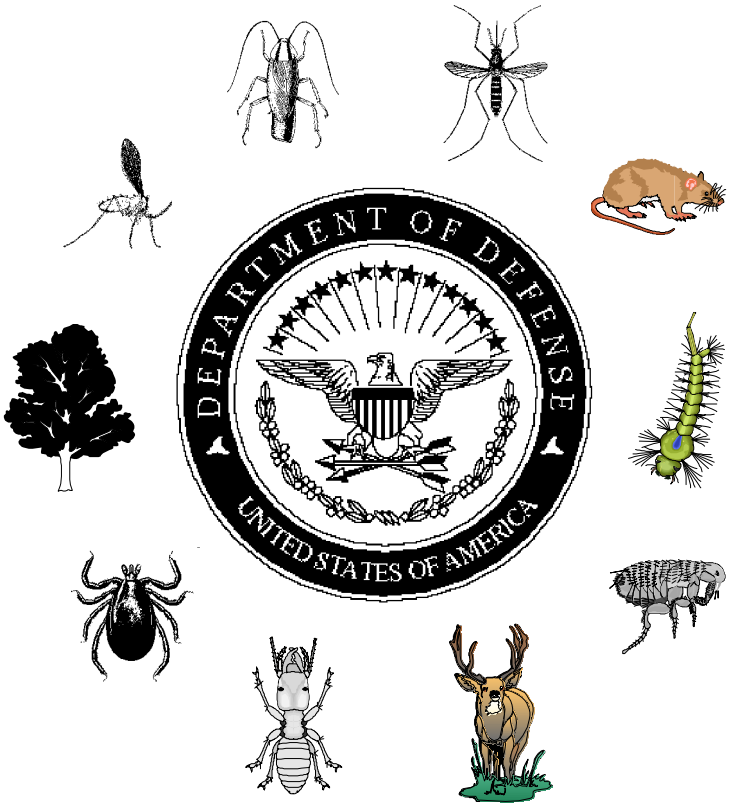
ARMED FORCES PEST MANAGEMENT BOARD

TECHNICAL INFORMATION BULLETIN

DEFENSE PEST MANAGEMENT INFORMATION ANALYSIS CENTER



SEP-OCT 1995

DEFENSE PEST MANAGEMENT INFORMATION ANALYSIS CENTER
ARMED FORCES PEST MANAGEMENT BOARD
FOREST GLEN SECTION, WALTER REED ARMY MEDICAL CENTER
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TECHNICAL INFORMATION BULLETIN (TIB)

RECIPIENTS: The TIB is published by the Defense Pest Management Information Analysis Center to provide current information that may be of interest to the DoD pest management community. Comments, questions, and contributions are welcomed. Please send them to: Chief, DPMIAC/AFPMB, Forest Glen Section, WRAMC, Washington, DC 20307-5001, or call DSN 295-7479, (301) 295-7479; FAX (301) 295-7483. Reference to a commercial product or source in the Bulletin does not constitute DoD or AFPMB endorsement, unless specifically stated as a recommendation for DoD personnel. The Secretary of Defense has determined that publication of this periodical is necessary in the transaction of the public business, as required by law of the Department of Defense.

ANNOUNCEMENTS

AFPMB/DPMIAC Activities

- **New Telephone Numbers** - All AFPMB/DPMIAC telephone, fax and BBS numbers have changed. The DSN prefix has also changed to 295. Please note the following changes in your directory.

CAPT Bolton, COL Driggers, LtCol McKenna, MAJ Cannon, or Ms. Fink
Commercial (301) 295-7476/77
Fax (301) 295-7473

Dr. Egan
Commercial (301) 295-7485
Fax (301) 295-7492

Ms. Fancey, Ms. Gilpin, or SSG Shegog
Commercial (301) 295-7493/94
Fax (301) 295-7492

COL Lawyer, LCDR Corneil, Lt Forcum, Mr. Stevenson, Dr. Robbins, Ms. Trutt, Ms. Tilghman, Ms. Chambers, Ms. Isler, or Ms. Young
Commercial (301) 295-7479/80/81
Fax (301) 295-7483

Command Fax (301) 295-7497
BBS (301) 295-7474

- **DPMIAC Change of Chiefs** - COL Phillip Lawyer, USA, has replaced LCDR Jeffrey Corneil as the Chief of the AFPMB Defense Pest Management Information Analysis Center. COL Lawyer was previously the Department of Entomology Chief at the Division of Communicable Disease and Immunology, Walter Reed Army Institute of Research (WRAIR). His entomological specialty is sand flies and leishmaniasis. In addition to managing DPMIAC, COL Lawyer will be the Alternate Ex-Officio of the Repellents Committee, the Real Property Protection Committee and the Medical Entomology Rat and Tickborne Diseases Subcommittee. - CAPT Bolton, AFPMB, POC.

- **DPMIAC Loses a Valuable Member** - Capt Armando Rosales is leaving DPMIAC for his new assignment at Kadena AFB in Okinawa. Capt Rosales has been a productive member of the DPMIAC staff, whose significant contributions are too numerous to list. Some of his most noteworthy accomplishments include editing the TIB from August 1991 until September 1994, actively participating in numerous AFPMB Board Meetings, and writing many other publications (i.e. TIMs and DVEPs) for DPMIAC customers. All of us here at DPMIAC will miss the Capt and we wish him the best at his new duty station. - DPMIAC

- **DoD Instruction on the Pest Management Program** - The final draft will be mailed to the AFPMB Council for coordination. The instruction will then be formally coordinated with the Components. - CAPT Bolton, AFPMB.

- **DoD Plan for the Certification of Pesticide Applicators** - The final draft was mailed to the AFPMB Council for coordination. The plan will then be formally coordinated with the Components. - MAJ Cannon, AFPMB.

- **DoD Manual on Pest Management Training** - A subgroup of the AFPMB Training and Certification Committee (TCC) met August 29-31 at the AFPMB and prepared a first draft of this manual, DoD 4150.7-M. The draft will be reviewed by the full membership of the TCC at the November meeting of the AFPMB. - MAJ Cannon, AFPMB.

- **President's Advisory Committee on Gulf War Veterans' Illnesses** - Mr. Mark Brown from the Committee met with AFPMB staff and Ms. Ann Davlin ODUSD(ES) on October 3. Mr. Brown was interested in the pesticides and repellents available to our troops during the Gulf War. His specific questions included: How were these chemicals selected and how were personnel trained to use them? We cleared up several misconceptions concerning the availability of pesticides within the DoD and the potential for their misuse by DoD personnel. - COL Driggers, AFPMB.

- **Pesticide Use/Risk Reduction Partnership with the EPA** - The EPA wants to include our pesticide use reduction initiative in their new "Pesticide Environmental Stewardship Program." In consultation with Dr. Andersen from the EPA, we

prepared a draft agreement on cooperation between the DoD and the EPA "with respect to integrated pest management (IPM)." This draft was reviewed by DoD General Council and sent to the Components in mid-August for review and comment. In early September, we received a formally coordinated interagency agreement (IA) back from the EPA that included $40K for an unspecified project. Review of this IA by DoD agreement specialists revealed several problems that prevented the proposed transfer of funds. After discussion with Dr. Andersen, we re-titled the IA a "Memorandum of Understanding" (MOU), which does not mandate transfer of EPA funds to the DoD. Coordination of this MOU by the Components is complete. The MOU package is in the ODUSD(ES) for final review. - LtCol McKenna, AFPMB.

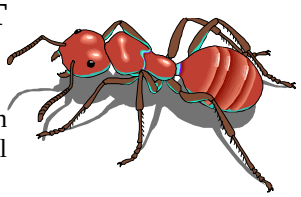
- **Pest Management Module for DESCIM Migratory System** - The Integration Decision Paper (IDP) is complete and was sent to the Components for final review with a suspense date of August 28. All Components except DLA have approved the IDP. DLA coordination is expected by the end of October. - Mr. Stevenson, AFPMB/DPMIAC.

- **MOU Between DoD and U.S. Department of Agriculture (USDA) on Biological and Toxicological Testing of Pesticides** - This MOU, which coordinates efforts between DoD and USDA on insect repellent development, is being revised by the U.S. Army Medical Command prior to coordination with the Services, USDA, and DUSD(ES). - COL Driggers, AFPMB.

- **Proceedings of the 1995 Tri-service Pest Management Workshop** - The final version has been printed and will be distributed in October. - MAJ Carpenter, AFPMB.

List of Standard Pesticides Available to DoD Components and All Federal Agencies - The latest edition (1 October 95) of the DoD pesticide list is now available through DPMIAC. To receive a copy mark the last page of the TIB and return it to DPMIAC. Copies are also available on Command Fax and BBS.

INTEGRATED PEST MANAGEMENT



Ant Bait Stations - Baits are an ideal control method for social insects like ants because of behavioral characteristics that make ants more susceptible than solitary insects. Foraging ants bring back food for the colony. Scout ants also recruit nestmates to the located food site, aiding in the distribution of bait. Through a process called trophallaxis, ants share their food by regurgitating it again and again. To take advantage of these behaviors, a bait must be attractive and readily picked up by foraging ants. The toxic portion of the bait must be slow acting to enable it to be distributed to as many ants as possible before taking effect. The bait must also be long lasting in the field, remaining fresh and viable.

A successful baiting program begins with a thorough inspection to identify ant species and determine where they are active, their sources of food, and the locations of trails leading to food and water. Careful sanitation must be enforced to ensure that alternative food sources do not compete with baits. A pre-baiting inspection is also needed to pinpoint where the ants are active. With the ant identified, a pre-bait should be selected based on knowledge of the species' preferred food sources. Survey baits should be placed in logical locations suspected of ant activity. Notable locations include window sills, door jambs, electrical outlets, ingoing and outgoing plumbing lines, drains, counter tops, and toilets. Baits should be left in place for a few hours and checked for activity. The active sites should be documented for future bait station placement. After the initial survey, bait stations should be placed and initially checked for freshness by observing if ants are actively feeding on them. The baits should be left in place for at least three days (longer for boric acid baits) before beginning a follow-up control to remove remaining ants. ---- Pest Control, 63(10), 82-84.

IPM Success Stories - Personnel in the Air Force are shifting from traditional pest control programs to integrated pest management. The following bases have reported recent successes in IPM:

- Sheppard AFB, TX - Predaceous ladybugs were released to aid in the control of aphids, scales, and spider mites on ornamental shrubs.
- Shaw AFB, SC - Use of the bacterium *Bacillus thuringiensis* against mosquito larvae has reduced adulticide applications.
- Tyndall AFB, FL - At food facilities, bait insecticides are being used instead of residual insecticides. Education of facility managers on the importance of good sanitation has also been an important factor in reducing pesticide usage.
- Luke AFB, AZ - Pre-emergent herbicides that give longer periods of control have replaced numerous applications of contact herbicides as the main form of vegetation control. This initiative has reduced labor costs and the total pounds of active ingredients applied for vegetation control.
- Bolling AFB, DC - A newcomers' orientation

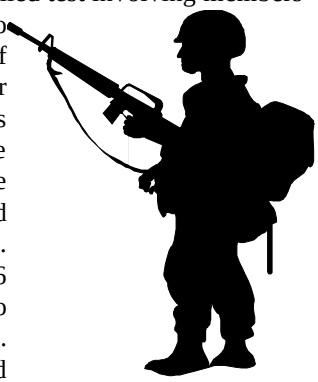
briefing to installation residents on pest control helps the base civil engineer achieve significant savings through a reduction in service order calls. Installation residents are given guidance on using IPM techniques to control their pest problems. ---- Mr. Wayne Fordham, HQ Civil Engineer Support Agency.

These are only a few examples of alternatives to traditional pest control measures. If you have an IPM success story, please send it to DPMIAC for inclusion in a future TIB.

PESTICIDES & EQUIPMENT

Dichlorvos; Cancellation of Certain Uses - The 28 September Federal Register announced the Environmental Protection Agency's (EPA) intent to cancel numerous registrations of dichlorvos and modify other registrations. The EPA has concluded that the risks outweigh the benefits for most uses of dichlorvos. The following actions have been proposed: cancellation of all uses in or on residences, ornamental lawns, turf and plants, commercial, institutional and industrial areas, airplanes, trucks, ship holds, rail cars, warehouses, and cancellation of use on bulk, packaged or bagged nonperishable processed and raw food (except for impregnated resin strips in silos). In addition, EPA is proposing to cancel other registrations unless certain modifications are made to the label, including: prohibiting hand-held application in mushroom houses, greenhouses, on food and nonfood animals (other than poultry), and in passenger buses; allowing other application methods in mushroom houses, greenhouses or passenger buses, as long as the applicator and others are prohibited from remaining in these facilities during treatment; restricting all remaining registered products to use by certified applicators only, except for impregnated resin strips used in museums (closed spaces) and in insect traps, and requiring personal protective equipment during handling; and requiring reentry intervals for mushroom houses, greenhouses, and passenger buses. EPA is proposing to retain the following uses: mushroom houses and greenhouses (only for automatic foggers or fogging through a port, and restricted reentry), kennels, feedlots, insect traps, garbage dumps, direct application to poultry, automated application to livestock, animal premises, manure, and buses (fogger use). Written comments will be accepted by the EPA until 27 December 1995. ---- 28 SEP 95 Federal Register 60(188): 50338-50377.

Efficacy of Permethrin-Impregnated Uniforms in the Prevention of Malaria and Leishmaniasis in Colombian Soldiers - A field study was conducted in Colombia to assess the efficacy of permethrin-impregnated uniforms in the prevention of malaria and leishmaniasis. The study was a double-blind, placebo-controlled test involving members of the Colombian Army who were patrolling in areas of endemicity for 3-8 weeks. For the malaria study, 172 troops (86 in each group) were randomly assigned to receive either permethrin-impregnated or nonimpregnated uniforms. For the leishmaniasis study, 286 troops were randomized into two groups (143 in each group).



The uniforms consisted of a shirt, an undershirt, pants, socks and a hat that were soaked in a solution containing 15 ml of permethrin per 2 l of water for two minutes, then air-dried for 2-4 hours. Control uniforms were treated identically with water that did not contain permethrin. The uniforms were distributed in such a way that neither the soldier nor the medical attendants knew which uniforms had been treated with permethrin. The soldiers were instructed to wear the uniforms day and night; however, this was not enforced in order to evaluate efficacy under normal working conditions. No other repellents were issued or available during the period of this study.

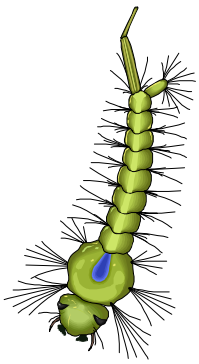
In the malaria study, the subjects were in the area of endemicity for 3-5 weeks and observed for another four weeks. There were three (3%) cases of malaria in the permethrin group and 12 (14%) cases in the control group. The three cases that occurred in the permethrin group were due to *Plasmodium vivax*. Of the cases in the control group, nine were due to *P. vivax*, one was due to *P. falciparum*, and two were dual infections. In the leishmaniasis study, the subjects were in the area of endemicity for 6-8 weeks and were then observed for an additional 12 weeks. There were four (3%) cases of leishmaniasis in the permethrin group and 18 (12%) cases in the control group. All cases occurred in the first 4-11 weeks of the study. In six cases, parasites were identified from lesion material, and in each case the isolate was identified as *Leishmania panamensis*. During the study periods, two (0.9%) of the subjects wearing permethrin-treated clothing reported irritation and puritis.

In the leishmaniasis study, and presumably in the malaria study, breakthrough infections in the treated group were primarily due to bites on unclothed parts of the body (face and hands). The strength of this study, as pointed out by the authors, is that it is the first determination of the efficacy of impregnated clothing during routine functioning. When impregnated clothing is worn during normal duties in a region of high endemicity, the incidence of disease is reduced by about 75%. ---- Clinical Infectious Diseases, 1995:21:599-602.

More NSNs for Stored Product Pest Traps -

NSN	Part #	Description
6840-01-418-5107	3302-00	Pherocon 1C Trap Wing Trap (100/case)
6840-01-418-5110	3303-25	Pherocon 1C Trap Wing Trap (25/case)
6840-01-418-1927	121901	AgriSense Magnet Wing Trap
6840-01-418-1929	122514	Biosys Indian meal Moth Lure
6840-01-418-1933	122313	Biosys Trappit Vertical Wall Mount Trap for Khapra Beetles

Use of Bti in the Routine Mosquito Control Program in Germany - A recently published study (N. Becker and F. Rettich: "Protocol for the Introduction of New *Bacillus thuringiensis israelensis* Products into the Routine Mosquito Control Program in Germany," *Journal of the American Mosquito Control Association* 10 (4): 527-533, 1994) reported on evaluations of the efficacy of new and frequently used *Bacillus thuringiensis israelensis* (Bti) formulations, and highlighted the requirements for successful introduction of new formulations of microbial control agents into routine control programs in Germany. This report offers information of interest to DoD entomologists in Europe, those working with DoD entomologists in Europe, and those who may serve there in the future.



Bti has been widely used in Germany since 1981 against flood-water and snow-melt mosquitoes such as *Aedes vexans* and *Aedes cantans*, and against *Culex pipiens*. According to the report, more than 60 tons of Bti formulations have been applied successfully to more than 70,000 hectares in Germany, achieving a substantial reduction in the mosquito population without harmful impact on the environment. In other European countries, including the Czech Republic, France, Hungary, Italy, Russia, Spain, and Switzerland, the introduction of Bti into regular mosquito control programs is reportedly making good progress.

Before using the different formulations in routine programs in Germany, they must be thoroughly evaluated to assess: (1) potency of the formations, (2) their efficacy in the laboratory against indigenous mosquito species to determine the minimum effective dosage (LC_{99} values), and (3) the optimum effective dosage as determined by of small field tests. This report details procedures used to perform these assessments.

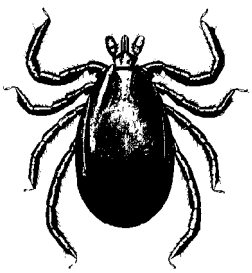
The various biotic and abiotic factors affecting the efficacy of biologicals, including susceptibility of the target species, stage of development, feeding behavior of mosquito larvae, temperature and quality of the treated water, intensity of sunlight, density of larval mosquito populations, and presence of filter-feeding nontarget organisms, also must be considered in advance of application.

The characteristics of the formulations in use, such as potency, settling rate and shelf life, can also influence the effectiveness of microbial control agents. It is important to understand the impact of these factors on routine treatment, especially dosage calculation, selection of the right formulation for particular environmental situations, and appropriate timing for treatment.

This report demonstrates the thoroughness of preparations required for introduction of new microbial control agents or formulations into routine mosquito control programs in Germany, and provides insight into the high professional standards for pesticide application that are encountered in the European theater. ---- Journal of the American Mosquito Control Association 10 (4): 527-533.

MEDICAL ENTOMOLOGY

A New Strain of Plague from Surat? - Molecular studies suggest that isolates of the plague bacterium, *Yersinia pestis*, from Surat, India, are somewhat different from previously identified isolates, but the significance of this finding remains unclear. Regional variations in plague protein profiles are common but may be of no biological or medical importance. Nevertheless, some unusual observations were recorded during the Indian outbreak: a number of individuals with suspected bubonic plague did not develop pain in lymph nodes; pneumonic plague apparently affected only one member of a household; and spot mapping failed to confirm droplet spread of infection. However, many cases of suspected plague were later shown to be tuberculosis, pneumonia, or just common colds. The unusual protein profiles of the Surat isolates, plus the fact that no laboratory-confirmed cases of plague have occurred in India since 1966, have raised questions concerning their origin and have fueled speculation that they may have been genetically engineered in an Indian program of biological warfare. Such accusations have been denied by American researchers. ---- Infectious Disease News 8(8): 1, 21.



Lyme Disease and HGE - Between 10% and 30% of people with Lyme disease in the upper midwestern United States show serological evidence of exposure to human granulocytic ehrlichiosis (HGE). This is troubling on two

counts: first, ehrlichial infections may increase the severity of Lyme disease, possibly by suppressing patients' immune systems; second, the standard therapy for Lyme disease is either doxycycline or amoxicillin, but only doxycycline is effective against HGE bacteria. Thus, doctors who treat Lyme disease patients with amoxicillin would fail to address concurrent HGE infection. Simultaneous infection with HGE may even explain some Lyme disease treatment failures. Cases of coinfection in the Midwest and eastern United States would appear to be inevitable because the same vector tick--*Ixodes scapularis*--is known to be involved in both diseases. ---- Infectious Disease News 8(8): 5.

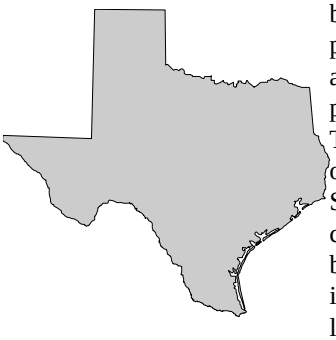
Evaluation of the Laboratory Mouse Model for Screening Topical Mosquito Repellents - Several animal models have been used in testing mosquito repellents, but only two have been shown to predict accurately the results to be expected in tests on human subjects. Protection times obtained in tests on guinea pigs against *Aedes aegypti* were significantly correlated with values obtained in tests on humans in one study, and a second study demonstrated that minimum effective doses and protection times obtained in tests on hairless dogs against *Ae. aegypti* were significantly correlated values obtained in tests on humans. A dose-response method for testing repellents on laboratory mice against *Ae. aegypti* was published in 1983. Adaptations of that method were subsequently used in tests of repellents against the fleas *Xenopsylla cheopis* and *Diamanus montanus* and the ticks *Ornithodoros parkeri* and *Dermacentor variabilis.*

A recently published study evaluated the laboratory mouse model and calculated correction terms for conversion of results obtained in the test to corresponding values expected in tests on humans. Because the skin is the site of action of topical repellents, significant differences in the skins of mice and humans with regard to pigmentation, hair, and presence or absence of sweat glands should be considered. These and other differences in skin structure and function undoubtedly contribute to the differences in effectiveness and persistence reflected by the correction terms derived in the study.

In the study, eight commercial repellents were tested against *Aedes aegypti* 0 and 4 hours after application in serial dilution to volunteers and laboratory mice. Results were analyzed by multiple regression of percentage of biting (probit scale) on dose (logarithmic scale) and time. Empirical correction terms for conversion of values obtained in tests on mice to values expected in tests on human volunteers were calculated from data obtained on 4 repellents and evaluated with data obtained on 4 others. Corrected values from tests on mice did not differ significantly from values obtained in tests on volunteers. Test materials used in the study were dimethyl phthalate, butopyronoxyl, butoxypolypropylene glycol, MGK Repellent 11^{R}, DEET, ethyl hexanediol, Citronyl^{R}, and dibutyl phthalate. ---- Journal of the American Mosquito Control Association 10(4): 565-571.

NATURAL RESOURCES

Brown Tree Snake in Texas - The brown tree snake has become a very serious problem on Guam since its accidental introduction, presumably in the late 1940s. The snake is a major predator of native birds and lizards. Significant control and containment measures have been introduced to prevent its introduction into other locales. Hawaii, Saipan, Tinian, Rota, Kwajalein, Diego Garcia, Okinawa, Cocos Island and Wake Island have all experienced accidental introduction of the brown tree snake. Recently a brown tree snake was introduced to the mainland United States. Crated in household goods shipped from Guam, the snake arrived alive and well at Ingleside Naval Air Station, which is located on the north side of Corpus Christi Bay, Aransas County, Texas. Fortunately the owner was a military customs inspector and was present when the crate was opened. The snake was positively identified as a brown tree snake and destroyed. ---- The Texas Journal of Science, 46(4): 365-368.



HAZARDOUS WASTE & TOXIC SUBSTANCES

Environmentally Friendly Agents Wage War on Pests and Pesticides - Scientists are increasingly looking for natural substances with which to wage war on pests. Naturally produced products are becoming more common in the marketplace. Environmental pressures have given these products more appeal than chemical treatment alternatives. Steven Aust, a professor of chemistry and biochemistry at Utah State University, Logan, began working on white rot fungi 10 years ago. He found that the fungi degraded lignin, the polymer that gives strength to wood, which like many environmental pollutants is insoluble. Aust's research became focused on the possible use of white rot fungi to degrade environmental pollutants. His research demonstrated that polychlorinated biphenyls could be degraded. "We then converted DDT all the way to CO_2. Then we showed that this mechanism was applicable to whole groups of totally different kinds of environmental pollutants, even dioxin and munitions waste such as TNT," says Aust. The fungus is easily and cheaply cultivated on sawdust.

Cornell University scientists have developed a

natural pesticide from trichoderma, a naturally occurring fungus that was found eating army tents in World War II. Two different strains of the soil occurring fungus were bioenvironmentally engineered through protoplast fusion into a new strain. This new strain became the first living organism registered by the Environmental Protection Agency for use as a fungicide.

Continued research in this exciting field will undoubtedly produce many new naturally occurring products to aid in the war against pests and pesticides. ---- R & D Magazine, April 1995.

TIB BYTES

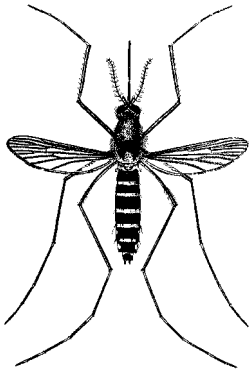
AFPMB Word Wide Web Server - The Armed Forces Pest Management Board's World Wide Web Server is up and running. Its purpose is to provide quick access to a wide variety of information available from AFPMB and the Defense Pest Management Information Analysis Center (DPMIAC). DPMIAC staff are converting publications and documents as quickly as time permits, but it will take some time before the goal of having all of the Technical Information Memorandums (TIMs), Disease Vector Ecology Profiles (DVEPs) and past Technical Information Bulletins (TIBs) loaded on the server. Other information will be placed on the server as time and resources permit. The Universal Resource Locator (URL) for the WWW server is:

http://www-afpmb.acq.osd.mil/

Suggestions for what information users would like to have available on the server are strongly encouraged. Some possibilities include the DoD Pest Management Directory, access to DPMIAC's literature data base, board meeting announcements and minutes, pertinent directives and instructions, etc. This information can also be accessed through the Defense Environmental Network Information Exchange (DENIX). A gateway will be set up through DENIX to provide access to the text portions of the AFPMB Web pages. A DENIX account and password can be obtained by calling Kim Grein at (217) 373-6790. Suggestions, comments and questions should be referred to LCDR Jeff Corneil at (301) 295-7479 or DSN 295-7479.

TIB BITS

Bug Zappers - Two researchers at the University of Notre Dame in Indiana recently completed a study on the effectiveness of bug zappers against mosquitoes. They found that only 3% of the insects killed in the average electrocution device were female mosquitoes. The rest of the insects killed in the zappers were non-biting male mosquitoes and other harmless insects such as beetles and moths. The reason these devices do not kill many female mosquitoes is that most biting insects are not attracted to light and those that are veer away from zappers because of the lack of reinforcing signals associated with true hosts. The scientists hypothesize that people are attracted to the zappers for their entertainment value and suggest that they should be sold in the home-entertainment section instead of the garden section. Some fans compare them to watching lava lamps. ---- National Wildlife, 33(4), 4.



Sneaky Strategic Tactics Used by Rodents - Rodents are preyed upon by numerous animals in nature. Hawks, owls, coyotes, foxes, cats, dogs, snakes, and skunks are the most noteworthy predators they encounter. Over the years, man has become an important predator of rodents as well. People use many different methods to capture and kill these pests. With so many pressures on rodents, it is not surprising that they have evolved many defensive behaviors to maximize their survival. By understanding these behaviors and their effect on control efforts, pest controllers can modify their efforts to outwit these wary creatures. The four most common survival strategies rodents use are secretiveness, quickness, cautiousness, and resistance to rodenticides. **Secretive** rodents nest in quiet and undisturbed areas. While moving about in the wild, they utilize any object for cover. In buildings, they are most active when it is dark and quite. Their **quickness** allows them to avoid many predators as they attempt to escape. The house mouse has been clocked at the amazing speed of 12 feet per second. Rodents also rapidly jump to avoid danger. This response may allow them to avoid the snares of a snap trap or glueboard. Their **cautiousness** with new objects, surfaces, and food assists their survival in a constantly changing world. This cautious behavior is referred to as neophobia, (i.e., fear of the new). This is why they are hard to catch on glueboards and why the bait disappears from so many snap traps. **Resistance to rodenticides** has developed since the introduction of warfarin and is becoming evident in the newer second-generation anticoagulants. Bait avoidance can be a major problem for the pest controller.

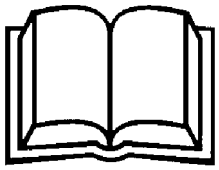
With knowledge of how rodents avoid danger, we

can modify our control procedures to help us overcome their adaptations. The following tips are designed to do just that.

- Conduct careful inspections in dark, quiet areas.
- When setting snap traps in runways, use two traps placed two to three inches apart.
- Prebait unset traps for a few days before setting the traps.
- Tie solid baits to the trigger of the trap with dental floss.
- When using tracking powders, apply paper-thin coatings to lessen rodent avoidance.
- Because hunger lessens the neophobic reaction, remove all rodent food sources.
- If a particular rodenticide is not working well, change to a different formulation.
- Rearrange objects in rodent runways to force them to jump onto glueboards or traps.
- Eliminate harborage sites such as clutter, weedy patches, etc.

Integrated pest management (IPM) is the best approach for rodent control. Rodent proofing and sanitation along with the use of baits, traps and glueboards are definitely the most productive long-term control options. ---- Pest Control, 63(8), 48-50.

PUBLICATIONS OF INTEREST



Green Industry Composting - An informative publication dealing with current methods for composting. Copies can be obtained from: BioCycle, 419 State Avenue, Emmaus, PA 18049, Tel: (610) 967-4135.

ALSC Accredited Agencies for Supervisory and Lot Inspection of Pressure Treated Wood Products - A listing of the current accredited agencies for supervisory and lot inspection of pressure treated wood products (JUN 95) issued by the American Lumber Standard Committee (ALSC) is available through DPMIAC. To receive a copy, please fill out the request form at the end of this TIB and return it to DPMIAC.

U.S. Threatened and Endangered Species - Detailed information on all U.S. threatened and endangered species appears in the two-volume U.S. Fish and Wildlife publication *Threatened and Endangered Wildlife and Plants*. Volume I: Animals and Volume II: Plants may be purchased separately from the Threatened and Endangered Species Institute at (303) 278- 0956.

Guide to Insect Borers of North American Broadleaf Trees and Shrubs - An illustrated guide, by J. D. Solomon, 1995, to 300 species of insect borers that attack hardwood trees and shrubs and other woody angiosperms in North America. U.S. Department of Agriculture, Forest Service, Agriculture Handbook 706.

Building Structures Resistant to Wood-Infesting Insects and Decay - A concise article from *The IPM Practitioner* describes designs, foundation types, log shape and interface, wood species, boron preservatives, prevention of discoloration and water repellent coatings. A list of resources is also included. To receive a copy mark the last page of the TIB and return it to DPMIAC.

SELECTED MEETINGS

NOVEMBER 6-9. 150th Meeting, Armed Forces Pest Management Board - Washington, DC COL Don Driggers, AFPMB, Forest Glen Sect., WRAMC, Washington, DC 20307-5001, Tel: (301) 295-7476, Fax: (301) 295-7473, DSN Prefix 295.

NOVEMBER 17-21. Annual Meeting of the American Society of Tropical Medicine and Hygiene - Hyatt Regency, San Antonio, TX. ASTMH, 60 Revere Drive, Suite 500, Northbrook, IL 60062.

DECEMBER 5-7. Forest Pest Management / Decision Support Course - Petawawa, ONTARIO. Eileen Harvey, Department of Natural Resources Canada, Forest Pest Management Institute, 1219 Queen St., E., P.O. Box 490, Sault Ste. Marie, Ontario, Canada P6A 5M7, Tel: (705) 757-5740 ext 2251, Fax: (705) 759-5700. E-mail: eharvey@pmoeafpm.fpmi.forestry.ca

DECEMBER 17-21. Entomological Society of America Annual Meeting - Las Vegas Hilton, Las Vegas, NV. ESA, 9301 Annapolis Road, Lanham, MD 20706, Tel: (301) 731-4535, Fax: (301) 731-4538.

1996

FEBRUARY 5-15. Forest Insect Management Course - Sault Ste. Marie, ONTARIO. Eileen Harvey, Department of Natural Resources Canada, Forest Pest Management Institute, 1219 Queen St., E., P.O. Box 490, Sault Ste. Marie, Ontario, Canada P6A 5M7, Tel: (705) 757-5740 ext 2251, Fax: (705) 759-5700. E-mail: eharvey@pmoeafpm.fpmi.forestry.ca

FEBRUARY - MARCH 1. Biennial Army Medical

Entomology Training Course - San Antonio, TX. COL Philip Lawyer, DPMIAC/AFPMB, Forest Glen Sect., WRAMC, Washington, DC 20307-5001, Tel: (301) 295-7479, Fax: (301) 295-7483, DSN Prefix 295. E-mail: lawyerpg@acq.osd.mil

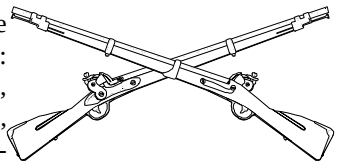
MARCH 24-28. American Mosquito Control Association/Mid-Atlantic Mosquito Control Association/Virginia Mosquito Control Association - Norfolk, VA. P.O. Box 5416, Lake Charles, LA 70606, Fax: (318) 478-9434.

JUNE 16-21. VII International Congress on Lyme Borreliosis - San Francisco, CA. Mary Ellen Fernandez, P.O. Box 2087, Fort Collins, CO 80522, Tel: (970) 221-6426.

COURSES FOR DoD PEST MANAGEMENT PERSONNEL

If you see any information that needs correcting or updating, please contact 1Lt Forcum, who can be reached at Tel: (301) 295-7479, DSN Prefix 295 or e-mail forcumch@acq.osd.mil

ARMY SPONSORED COURSES



1. For information on the following courses, contact: SFC Kenneth Jones, Academy of Health Sciences, U.S. Army, ATTN: MCCS-HPM (Medical Zoology Branch), Fort Sam Houston, TX 78234-6100; Tel: (210) 221-5270/4278, DSN Prefix 471. Classes are conducted at Fort Sam Houston, TX.

Pest Management Technology - Core Instruction for Initial Certification:
22-26 JAN 96 (golf course personnel only)
18-22 MAR 96
6-10 MAY 96
5-9 AUG 96

Plant Pest and Vegetation Management - Initial Certification for Categories 3, 5 & 6:
29 JAN - 2 FEB 96 (golf course personnel only)
25-29 MAR 96
13-17 MAY 96
12-16 AUG 96

Arthropod and Vertebrate Pest Management - Initial Certification for Categories 7 & 8:
1-5 APR 96
20-24 MAY 96
19-23 AUG 96

Recertification:
8-12 JAN 96
4-8 MAR 96
22-26 APR 96
9-13 SEP 96

2. For information on courses in Germany, contact: MAJ Tom Logan, 10th Medical Lab, CMR 402, APO AE 09180; Tel: 49-6371-86-8540/44, DSN: 486-8540/44. Classes are conducted at the 10th Medical Laboratory, Landstuhl, Germany.

3. For Information on courses taught at the Environmental Training Center, contact: Ms. Gail Boeff, ATTN: ATZR-BT, Fort Sill, OK 73503-5100; Tel: (405) 351-2111, Fax: (405) 351-5722, DSN Prefix 639. The Environmental Training Center at Fort Sill, OK conducts a variety of environmental, natural resources and occupational health courses. For a complete listing of courses and schedules, contact the Center.

NAVY SPONSORED COURSES

NAVY

1. For information on the following courses, contact: Mr. F. De Masi, NDVECC, Naval Air Station Jacksonville, Box 43, Jacksonville, FL 32212; Tel: (904) 772-2424, Fax: (904) 779-0107, DSN Prefix 942. Classes are conducted at the Disease Vector Ecology and Control Center, NAS Jacksonville, Jacksonville, FL.

Medical Entomology and Pest Management Technology (B-322-1050):
5-16 FEB 96
3-14 JUN 96
8-19 JUL 96

Pesticide Applicator Training (Core) (B-322-1070), Instruction for Initial Certification:
4-11 MAR 96
9-16 SEP 96

Plant Pest and Vegetation Management (B-322-1071), Initial Certification for Categories 2, 3, 5 & 6:
12-15 MAR 96
17-20 SEP 96

Arthropod and Vertebrate Pest Management (B-322-1072), Initial Certification for Categories 7 & 8:
18-28 MAR 96
23 SEP - 3 OCT 96

Recertification Course (B322-1074), Category 8:

7-9 NOV
16-18 APR 96
19-21 NOV 96

Operational Entomology Training (B-322-1077), designed for A/D & Reserve PMTs, EHOs, Entomologists, Epidemiologists & others assigned to PM units:
6-17 MAY 96
21 OCT - 1 NOV 96

2. For information on the following courses, contact: Dr. W.E. Tozer, NDVECC, Naval Air Station Alameda, Building 130, Alameda, CA 94501-5039; Tel: (510) 263-2806, DSN Prefix 993. Classes are conducted at the Disease Vector Ecology and Control Center, NAS Alameda, Alameda, CA.

Medical Entomology and Pest Management Technology for Preventive Medicine Technicians (B-322-0017):
9 NOV - 8 DEC at San Diego, CA
18 MAR - 12 APR 96
22 JUL - 16 AUG 96

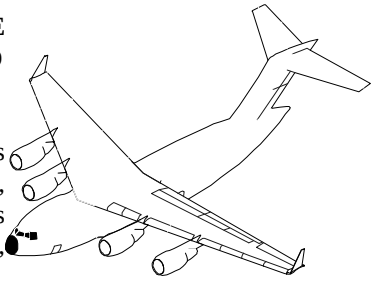
Medical Entomology and Pest Management Technology (Reserve Training) (B-322-1050):
9-20 SEP 96 at Bangor, WA

Recertification Course (B-322-1074), Category 8:
23-26 JAN 96
23-26 APR 96 at NEPMU-5
3-6 SEP 96 at Bangor, WA

Shipboard Pest Management (B-322-1075): NDVECC(A)
15 NOV
6 DEC
10 JAN 96
14 FEB 96
13 MAR 96
17 APR 96
10 JUL 96 at Bangor, WA
21 AUG 96 at Bangor, WA
25 SEP 96 at Bangor, WA

Operational Entomology Training (B-322-1077), designed for A/D & Reserve PMTs, EHOs, Entomologists, Epidemiologists & others assigned to PM units:
26 FEB - 8 MAR 96 at NEPMU-6, Pearl Harbor, HI

AIR FORCE SPONSORED COURSES



1. To enroll in courses held at Sheppard AFB, contact: Programs Division, 2AF/DOP, Keesler AFB, MS 39534-5000; DSN: 597-1336. For information on the content of the following courses, refer to AFCAT 36-2223, USAF Formal Schools or contact: Mr. Hershell Bland, 366 TS/TSIM (Training Squadron/Training Squadron, Instructional Mechanical), 727 Missile Road, Sheppard AFB, TX 76311-2254; DSN: 736-5811, DSN Fax: 736-3345. Classes are conducted at Sheppard AFB, TX.

Pest Management Specialist (Certification), #J3AZR3E453 003 (previously #J3AZR56650-003). Initial Certification for Core, Categories 3,5,6,7 & 8:
6 JUL-2 AUG

2. For information on the following course, contact: Capt Duane L. Meighan, USAF School of Aerospace Medicine/EH, Brooks AFB, TX 78235-5123 at Tel: (210) 536-2058/59, DSN Prefix 240.

Operational Entomology Course - #B30ZY43M3-000

The Operational Entomology Course (OEC) is two weeks of training that includes vector bionomics and vector-borne disease profiles, surveillance and control of vectors and vector-borne diseases, and information, intelligence, and perspectives on developing country operations during exercises, hostilities, and natural disasters. Academic instruction, practical exercises and field experiences simulate actual vector-borne disease surveillance and control situations: The course is designed to provide training for the following Air Force specialties and DoD personnel: public health officers (43H1/3); public health apprentices (4E031, E-2 and above with completion of 5-level CDC and the recommendation of your supervisor), journeymen (4E051), craftsmen (4E071), or superintendents (4E091); medical entomologists (43M1/3); flight surgeons (48A1/3 or 48P1/3); pest management apprentices (3E433, E-2 and above with completion of 5-level CDC and the recommendation of your supervisor), journeymen (3E453), craftsmen (3E473), or superintendents (3E490 with a prior AFSC 3E433, 3E453, and 3E473), or equivalent civilian pest management personnel; and other military and civilian public health and pest management personnel with the consent of the faculty. Quotas are obtained through the Unit or MAJCOM Training Managers. Army and Navy personnel may contact USAFSAM/EH to request attendance in OEC and are admitted as slots become available.

27 NOV - 8 DEC
22 JAN - 2 FEB 96
18-29 MAR 96
10-21 JUN 96
8-19 JUL 96
9 -20 SEP 96

3. For information on the following course, contact: Dr. Terry L. Biery, 757 AS/DOSE, YARS, Vienna, OH 44473-5000; Tel: (216) 392-1111, DSN: 346-1513/1111. Certification and Recertification for Aerial Applicators: 10-14 JUN 96

FEDERAL REGISTER

The following is compiled from the Federal Register (FR), which is a daily listing of rules, proposed rules, and notices generated by U.S. Government agencies. Executive Orders, proclamations, and other documents from the President are also in the FR. Our listings include FR items which may be of interest to the DoD pest management and natural resources communities; environmental impact statement listings and other DoD items unrelated to pest and natural resource management generally are not included.


4-10-92
Vol. 57 No. 70

Friday
April 10, 1992

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VOL 60 NO.147-169 (1-31 August 1995)

2-39309-14 Fish and Wildlife Service - Action - Proposed Rule - Endangered and Threatened Wildlife and Plants; Proposed Threatened Status for *Arctostaphylos pallida* (Pallid manzanita), a Plant from the Northern Diablo Range of California.

2-39314-326 FWS - Action - Proposed Rule - ETWP; Proposed Threatened Status for Nine Plants from the Grasslands or Mesic Areas of the Central Coast of California.

2-39326-337 FWS - Action - Proposed Rule - ETWP; Proposed Rule to Determine Five Plants and a Lizard from Monterey County, California as Endangered or Threatened.

2-39337-347 FWS - Action - Proposed Rule - ETWP; Proposed Endangered or Threatened Status for Seven Plants from the Mountains of Southern California.

2-39388-90 Environmental Protection Agency - Action - Notice - Notice of Receipt of Requests to Voluntarily Cancel Certain Pesticide Registrations.

2-39390-92 EPA - Action - Notice - Cancellation of Pesticides for Non-payment of 1995 Registration Maintenance Fees.

4-39835-37 Animal and Plant Health Inspection Service, USDA - Action - Interim Rule and Request for Comments - Witchweed; Regulated Areas.

7-40053-54 APHIS - Action - Interim Rule and Request for Comments - Mediterranean Fruit Fly; Removal from the Quarantined Areas.

7-40149-50 FWS - Action - Notice of 90-Day Petition Finding - ETWP; 90-Day Finding for a Petition to List the Eagle Lake Rainbow Trout and Designate Critical Habitat.

8-40339-40 FWS - Action - Notice of 90-Day Petition Finding - ETWP; 90-Day Finding for a Petition to List the Kootenai River Population of the Interior Redband Trout as Threatened or Endangered.

9-40549-57 FWS - Action - Proposed Rule - ETWP; Proposed Threatened Status for Four Plants from Southwestern California and Baja California, Mexico.

10-40837-41 Office of the Federal Environmental Executive, EPA - Action Notice - Office of the Federal Environmental Executive; Guidance for Presidential Memorandum on Environmentally and Economically Beneficial Landscape Practices on Federal Landscaped Grounds.

10-40851-52 FWS - Action - Notice of Document Availability - ETWP; Availability of a Draft Recovery Plan for the Washington, Oregon, and California Population of the Marbled Murrelet (*Brachyramphus marmoratus marmoratus*) for Review and Comment.

10-40852-53 FWS - Action - Notice of the Availability of a Finding of No Significant Impact - ETWP; Availability of a Finding of No Significant Impact.

10-40892-954 FWS - Action - Supplemental Proposed Rule - ETWP; Proposed Designation of Critical Habitat for the Marbled Murrelet.

11-40993 APHIS - Action - Affirmation of Interim Rule As Final Rule - Oriental Fruit Fly; Removal of Quarantined Area.

11-41099 FWS - Action - Notice of Document Availability and Comment Period - Availability of a Draft Plan for Nineteen Florida Scrub and High Pineland Plants for Review and Comment.

14-41898 FWS - Action - Notice of Meeting - Aquatic Nuisance Species Task Force Meeting.

15-42140-41 FWS - Action - Proposed Rule Reopening of Comment Period - ETWP; Reopening of Comment Period on Proposed Rules to List the Copper Belly Water Snake and Lake Erie Water Snake as Threatened.

17-42814 APHIS - Action - Notice of Reopening and Extension of Comment Period - Khapra Beetle; Brassware and Wooden Screens From India.

22-43654-99 EPA - Action - Proposed Rule - Land Disposal Restrictions-Phase IV: Issues Associated With Clean Water Act Treatment Equivalency, and Treatment Standards for Wood Preserving Wastes and Toxicity Characteristic Metal Wastes.

23-43721-23 National Marine Fisheries Service, National Oceanic and Atmospheric Administration, Commerce; and Fish and Wildlife Service, Interior - Action - Notice of Decision on Critical Habitat Designation - ETWP; Decision on Designation of Critical Habitat for the Gulf Sturgeon.

23-43797-98 EPA - Action - Notice - Notice of Receipt of Requests for Amendments to Delete Uses in Certain Pesticide Registrations.

28-44463-76 FWS - Action - Proposed Rule; Supplemental - Migratory Bird Hunting; Proposed Frameworks for Late-Season Migratory Bird Hunting Regulations.

29-44855-56 NMFS, NOAA - Action - Notice of Availability; Reopening of Public Comment Period - ETWP; Reopening of Public Comment Period on the Proposed Recovery Plan for Snake River Salmon.

29-44899 FWS - Action - Notice of Availability - Notice of Availability of a Technical/Agency Draft Recovery Plan for the Yellow-Shouldered Blackbird for Review and Comment.

29-45020-31 FWS - Action - Final Rule - Migratory Bird Hunting; Final Frameworks for Early-Season Migratory Bird Hunting Regulations.

31-45628-42 FWS - Action - Final Rule - Migratory Bird Hunting; Early Seasons and Bag and Possession Limits for Certain Migratory Game Birds in the Contiguous United States, Alaska, Hawaii, Puerto Rico, and the Virgin Islands.

VOL 60 NO.170-189 (1-30 September 1995)

1-45732-33 FWS - Action - Notice of Document Availability - Notice of Availability of a Technical Agency Draft Recovery Plan for *Harrisia portoricensis* for Review and Comment.

6-46278-79 EPA - Action - Notice of Availability and Opening of Public Comment Period - Certain Chemicals; Availability of Reregistration Eligibility Decision Documents for Comment.

6-46279-80 EPA - Action - Notice - Notice of Receipt of Voluntary Cancellation Request of Registration of VAPAM-B Foaming Fumigant Containing the Active Ingredient Metam-Sodium.

7-46568-69 FWS - Action - Notice of 12-Month Petition - ETWP; 12-Month Petition Finding to List *Silene verecunda* ssp. *verecunda* (Mission Dolores Campion).

7-46569-71 FWS - Action - Notice of 90-Day Petition Finding - ETWP; 90- Day Finding for a Petition to List the Mohave Ground Squirrel as Threatened.

7-46571-72 FWS - Action - Notice of 12-Month Petition Finding - ETWP; 12-Month Finding for a Petition to List the Mono Lake Brine Shrimp as Endangered.

7-46592-95 EPA - Action - Notice - Notice of Receipt of Requests to Voluntarily Cancel Certain Pesticide Registrations.

7-46624 FWS - Action - Notice of Document Availability - Availability of the *Lepanthes eltorrensis* and *Cranichis ricartii* Recovery Plan Technical/Agency Draft for Review and Comment.

12-47338-39 FWS - Action - Notice of 12-Month Petition Finding - ETWP; 120- Month Finding for a Petition to List the Southern Population of Walleye as Endangered.

12-47339-40 FWS - Action - Notice of Availability, Opening of Public Comment Period - ETWP; Notice of Availability of Reports and Other Data Pertaining to the Listing of the Bruneau Hot Spring Snail.

12-47340-41 FWS - Action - Proposed Rule; Reopening of Comment Period and Notice of Public Hearing - ETWP; Reopening of Comment Period and Notice of Public Hearing on Proposed Endangered Status for Three Wetland Species in Southern Arizona and Northern Sonora.

12-47398-99 FWS - Action - Notice of Document Availability - Availability of a Draft Recovery Plan for the Aquatic and Riparian Species of Pahrangat Valley for Review and Comment.

13-47571-72 EPA - Action - Notice - Notice of Receipt of Requests for Amendments to Delete Uses in Certain Pesticide Registrations.

13-47572-75 EPA - Action - Notice - Notice of Receipt of Requests to Voluntarily Cancel Certain Pesticide Registrations.

13-47575 EPA - Action - Notice - Safe and Sure Products; Approval of a Pesticide Production Registration.

13-47575-76 EPA - Action - Notice - Zeneca Ag Products; Application to Register a Pesticide Product.

14-47755-56 FWS - Action - Notice - Document Availability and Public Comment Period - Availability of the Technical/Agency Draft Recovery Plan of the Appalachian Elktoe for Review and Comment.

14-47756-57 FWS - Action - Notice - Document Availability and Public Comment Period - Notice of Availability of the Technical/Agency Draft Recovery Plan for Cumberland Rosemary for Review and Comment.

14-47757-58 FWS - Action - Notice - Document Availability and Public Comment Period - Notice of Availability of the Agency Draft Recovery Plan for Cumberland Sandwort for Review and Comment.

18-48086 NMFS, NOAA - Action - Supplementary Proposed Rule; Request for Comments - ETWP; Proposed Threatened Status for Southern Oregon and Northern California Steelhead.

20-48680-81 EPA - Action -Notification to the Secretary of Agriculture - Notification to the Secretary of Agriculture of Proposed Regulations on Worker Protection Standards.

20-48684-85 FWS - Action - Notice of Petition Finding - ETWP; Notice of 90-Day Finding on Petition to List the Riverside Cuckoo Bee as Endangered.

21-48960 NMFS, NOAA - Action - Notice of Availability of an Amendment to a Fishery Management Plan; Request for Comments - Coral and Coral Reefs off the Southern Atlantic States; Amendment 3.

21-49003 FWS - Action - Notice of Document Availability - Availability of a Draft Recovery Plan for the Ute Ladies'-tresses (*Spiranthes diluvialis*) for Review and Comment.

25-49358-59 FWS - Action - Reopening of the Comment Period for the Proposed Special Rule - ETWP; Proposed Special Rule for the Conservation of the Northern Spotted Owl on Non-Federal Lands.

25-49359-77 FWS - Action - Proposed Rule - ETWP; Proposed Endangered or Threatened Status for Nineteen Plant Species from the Island of Kauai, Hawaii.

25-49377-92 FWS - Action - Proposed Rule - ETWP; Proposed Endangered Status for Thirteen Plants from the Island of Hawaii, State of Hawaii.

26-49627-28 FWS - Action - Notice of Document Availability - Notice of Availability of a Technical/Agency Draft Recovery Plan for *Stahila monosperma* for Review and Comment.

27-49818-19 FWS - Action - Notice of 12-Month Petition - ETWP; 12-Month Finding on a Petition to List *Mimulus clivicola* (Bank Monkeyflower).

27-49819-21 FWS - Action - Notice of 90-Day Petition - ETWP; 90-Day Finding for a Petition to List Desert Redband Trout in the Snake River Drainage above Brownlee Dam and below Shoshone Falls as Threatened or Endangered.

27-49853 FWS - Action - Notice of Document Availability and Public Comment Period - Notice of Availability of a Draft Recovery Plan for the Alabama Streak-sorus Fern for Review and Comment.

27-49854- FWS - Action - Notice of Document Availability - Availability of a Draft Recovery Plan for the Heliotrope Milkvetch (*Astragalus montil*) for Review and Comment.

27-49854-55 FWS - Action - Notice of Document Availability and Public Comment Period - Notice of Availability of a Draft Recovery Plan for the Louisiana Quillwort Fern for Review and Comment.

27-49855-56 FWS - Action - Notice of Document Availability - Notice of Availability of a Draft Recovery Plan for the Utah Pediocactus: San Rafael Cactus (*Pediocactus despainii*) and Winkler Cactus (*Pediocactus winkleri*) for Review and Comment.

28-50173-176 FWS - Action - Proposed Rule - ETWP; Proposed Endangered Status for *Juglans jamaicensis.*

28-50176-180 FWS - Action - Proposed Rule - ETWP; Proposed Endangered Status for the Plant *Cordia bellonis*.

28-50212-13 FWS - Action - Notice of Document Availability - Availability of Draft Recovery Plan for the

Molokai Plant Cluster for Review and Comment.

28-50213 FWS - Action - Notice Document Availability and Public Comment Period - Notice of Availability of the Technical/Agency Draft Recovery Plan for Saint Francis' Satyr for Review and Comment.

28-50213-14 FWS - Action - Notice - Document Availability and Public Comment Period - Notice of Availability of the Technical/Agency Draft Recovery Plan for *Amaranthur pumilus* (Seabeach Amaranth), a Plant Species for Review and Comment.

28-50338-77 EPA - Action - Notice of Preliminary Determination - Dichlorvos; Notice of Preliminary Determination to Cancel Certain Registrations and Draft Notice of Intent to Cancel.

29-50518-30 FWS - Action - Proposed Rule - ETWP; Proposal to Determine the Least Chub (*Lotichthys phlegethontis*) an Endangered Species with Critical Habitat.

29-50530-39 NMFS, NOAA, FWS - Action - Proposed Rule - ETWP; Proposed Threatened Status for a Distinct Population Segment of Anadromous Atlantic Salmon (*Salmo salar*) in Seven Main Rivers.

29-50539-40 NMFS, NOAA - Action - Notice of Public Hearing - ETWP; Proposed Status for the West Coast Coho Salmon; Public Hearing.

29-50643 FWS - Action - Notice of Document Availability - Availability of Draft Recovery Plan for the Koolau Mountain Plant Cluster for Review and Comment.

29-50682-86 EPA - Action - Proposed Rule - Pesticide Worker Protection Standard; Language and Size Requirement for Warning Signs.

29-50686-91 EPA - Action - Proposed Rule - Pesticide Worker Protection Standard; Decontamination Requirements.

ARMED FORCES PEST MANAGEMENT BOARD
PROFESSIONAL PEST MANAGEMENT PERSONNEL
CERTIFICATION/RECERTIFICATION INFORMATION SHEET

COMPLETE ALL ENTRIES:

1. NAME_____ ____ - __ -_____
LAST, FIRST, MI SSN (at least last 4 numbers)

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4. I REQUEST:

A. □ INITIAL CERTIFICATION (INITIAL CERTIFICATION REQUIRED AGAIN IF PRESENT CERTIFICATION EXPIRED MORE THAN 6 MONTHS.)
□ CORE
B. □ RECERTIFICATION
□ 1a. AGRICULTURAL - PLANT
□ 1b. AGRICULTURAL - ANIMAL
□ 2. FOREST
□ 3. ORNAMENTAL AND TURF
□ 4. SEED TREATMENT
□ 5. AQUATIC
□ 6. RIGHT-OF-WAY
□ 7. INDUSTRIAL, INSTITUTIONAL, STRUCTURAL, AND HEALTH RELATED
□ 8. PUBLIC HEALTH
□ 9. REGULATORY
□ 10. DEMONSTRATION AND RESEARCH
□ 11. AERIAL APPLICATION (INITIAL AERIAL APPLICATION CERTIFICATION AVAILABLE ONLY BY ATTENDING RESIDENT COURSE.)

5. PRESENT CERTIFICATION #(S)_____**,** _____**,** _____
PAST #(S)_____**,** _____**,** _____

6. I REQUEST STUDY MATERIAL BE SENT TO ME AT ABOVE ADDRESS (IN NO.3) PRIOR TO THE EXAMINATION:

□ YES □ NO

7. COMPLETE TITLE AND ADDRESS OF COMMAND TRAINING OFFICER WHERE EXAM SHOULD BE SENT:

_____
_____
_____
_____**ZIP**_____-_____

8. COMPLETE TITLE AND ADDRESS OF OFFICIAL/COMMANDING OFFICER WHERE CERTIFICATE SHOULD BE FORWARDED FOR FINAL SIGNATURE BEFORE AWARDING:

_____
_____
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_____**ZIP**_____-_____

9. REQUESTORS SIGNATURE: _____ **(OCT 95)**

Return to COL Driggers, AFPMB Forest Glen Section, WRAMC, Washington, DC 20307-5001.
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❑ NO. 5, Land Snails - Jun 1990
❑ NO. 11, Hydrogen Phosphide Fumigation with Aluminum Phosphide - Feb 1987
❑ NO. 13, Ultra Low Volume Dispersal of Insecticides by Ground Equipment - Mar 1985
❑ NO. 14, Personal Protective Equipment for Pest Management Personnel - Mar 1992
❑ NO. 15, Pesticide Spill Prevention & Management - Jun 1992
❑ NO. 16, Pesticide Fires: Prevention, Control & Cleanup - Jun 1981
❑ NO. 17, Pest Control Facilities - Replaced by MIL HDBK 1028/8A, 1 Nov 1991
❑ NO. 18, Installation Pest Management Program Guide - Feb 1987
❑ NO. 20, Pest Management in Health Current Care Facilities - Oct 1989
❑ NO. 21, Pesticide Disposal Guide for Pest Control Shops - Oct 1986
❑ NO. 22, Guidelines for Testing Experimental Pesticides on DoD Property - Nov 1983
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❑ NO. 29, IPM In and Around Buildings - Jul 1994
❑ NO. 31, Contingency Retrograde Washdowns: Cleaning and Inspection Procedures - Dec 1993
❑ NO. 34, Bee Resource Manual With Emphasis on the Africanized Honey Bee - Aug 1995

Other Publications

❑ List of Standard Pesticides
❑ ALSC Accredited Agencies for Supervisory and Lot Inspection of Pressure Treated Wood Products
❑ Building Structures Resistant to Wood-Infesting Insects and Decay

Address Change/Addition

❑ address update (send old mailing label)
❑ this is a new address

_____

name _____

unit/office _____

address _____

city _____ state _____ zip code _____

telephone number

❑Air Force ❑Army ❑Navy ❑Fed Agcy ❑State Agcy ❑Other

Call in or send requests/address changes to:

AFPMB/DPMIAC
Forest Glen Section, WRAMC
Wash., D.C. 20307-5001
Tel: (301) 295-7479
Fax: (301) 295-7483
DSN Prefix 295
BBS: (301) 295-7474